



## APPENDIX B

### HUB/TRANSIT OPERATOR COST ESTIMATES

The following two pages show detailed cost estimates by hub and transit operator. The program element cost estimates – Wayfinding Signage, Transit Information Displays, Real-Time Regional Signage – are based on bringing each of the identified 21 regional transit hubs into conformance with the transit connectivity guidelines and standards developed for this project and described in these appendices. Listed below are cost assumptions:

#### Wayfinding Signage

##### *Capital Cost*

The number of new or replacement signs needed were based on the hub size and on the guidelines and standards in Appendix A-4 and Appendix C (Technical Paper #4). Hubs were classified as either small, medium or large; the number of signs needed varied by hub size. Sign unit costs varied, but were also based on the costs included in Technical Paper #4. The analysis assumed that many of the existing signs would be replaced as well as new signs added to fulfill the intent of the guidelines.

##### *Maintenance and Replacement Costs*

Annual costs estimated to be 10% of capital costs. This was based on the experiences of other operators, particularly those in the Chicago area where a similar wayfinding improvement program was implemented and is now in operation.

#### Transit Information Displays

##### *Capital Cost*

Based on Technical Paper #4 and field surveys, each hub was expected to add or replace one or two displays at each of the hubs. The displays cases were assumed to include space for the operators in each hub to post information such as schedules, fares, and route maps specific to their services.

##### *Maintenance and Replacement Costs*

The per hub cost is a proxy to both maintain and replace new displays at the 21 hubs and to maintain and replace (if necessary) the existing 144 display cases currently in use at some of the 21 hubs and other transit stations.

#### Real-Time Regional Signage

##### *Capital Cost*

The number and unit costs for new real-time signs needed was based on the standards and guidelines in Appendix A-4 and Appendix C (Technical Paper #4). The costs shown at some hubs are net of those currently funded with RM2 real-time grant funds. It is important to



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understand that the real-time regional signage program consists solely of the provision of signs that will be placed near the main entry/exit areas of the hubs and will display information for all the operators serving the hubs. Operators that have not implemented real-time capabilities would not be included, but provision would be made in the design of the signs for their future inclusion.

#### ***Maintenance***

Estimated at 10% of total capital cost for both proposed new and RM2-funded signs

#### ***Replacement***

Amortized total estimated capital cost using a ten-year life cycle at 3% per year.

Transit Connectivity Program Costs by Transit Hub									
	Wayfinding		Transit Information Displays		Real-Time Regional Signage			Total Costs	
	Capital	Maintenance & Replacement	Capital	Maintenance & Replacement	Capital	Maintenance	Replacement*	Capital	Maintenance & Replacement
1. Dublin/Pleasanton BART	\$ 435,000	\$ 40,000	\$ 27,000	\$ 7,000	\$38,000	\$8,000	\$ 4,000	\$ 500,000	\$ 59,000
2. Fremont BART	\$ 435,000	\$ 40,000	\$ 27,000	\$ 7,000	\$76,000	\$8,000	\$ 9,000	\$ 538,000	\$ 64,000
3. Oakland City Ctr/12 <sup>th</sup> St BART	\$ 435,000	\$ 40,000	\$ 27,000	\$ 7,000	\$152,000	\$15,000	\$ 18,000	\$ 614,000	\$ 80,000
4. Coliseum Oakland Airport BART	\$ 200,000	\$ 20,000	\$ 27,000	\$ 7,000	\$76,000	\$8,000	\$ 9,000	\$ 303,000	\$ 44,000
5. Pleasant Hill BART	\$ 435,000	\$ 40,000	\$ 27,000	\$ 7,000	\$76,000	\$8,000	\$ 9,000	\$ 538,000	\$ 64,000
6. El Cerrito Del Norte BART	\$ 435,000	\$ 40,000	\$ 27,000	\$ 7,000	\$152,000	\$15,000	\$ 18,000	\$ 614,000	\$ 80,000
7. Richmond BART/Amtrak	\$ 200,000	\$ 20,000	\$ 27,000	\$ 7,000	\$114,000	\$15,000	\$ 13,000	\$ 341,000	\$ 55,000
8. San Rafael Transit Ctr.	\$ 200,000	\$ 20,000	\$ 27,000	\$ 7,000	\$38,000	\$8,000	\$ 4,000	\$ 265,000	\$ 39,000
9. San Francisco Ferry Terminal/ Embarcadero BART	\$ 645,000	\$ 60,000	\$ 27,000	\$ 7,000	\$114,000	\$8,000	\$ 13,000	\$ 786,000	\$ 88,000
10. Montgomery BART/Transbay Terminal	\$ 645,000	\$ 60,000	\$ 27,000	\$ 7,000	\$114,000	\$15,000	\$ 13,000	\$ 786,000	\$ 95,000
11. Civic Center BART	\$ 435,000	\$ 40,000	\$ 27,000	\$ 7,000	\$114,000	\$15,000	\$ 13,000	\$ 576,000	\$ 75,000
12. Caltrain Station 4 <sup>th</sup> & King	\$ 435,000	\$ 40,000	\$ 27,000	\$ 7,000	\$114,000	\$15,000	\$ 13,000	\$ 576,000	\$ 75,000
13. Millbrae BART	\$ 435,000	\$ 40,000	\$ 27,000	\$ 7,000	\$114,000	\$15,000	\$ 13,000	\$ 576,000	\$ 75,000
14. San Jose Diridon Station	\$ 435,000	\$ 40,000	\$ 27,000	\$ 7,000	\$114,000	\$15,000	\$ 13,000	\$ 576,000	\$ 75,000
15. Palo Alto Station	\$ 200,000	\$ 20,000	\$ 27,000	\$ 7,000	\$38,000	\$8,000	\$ 4,000	\$ 265,000	\$ 39,000
16. Great America	\$ 200,000	\$ 20,000	\$ 27,000	\$ 7,000	\$38,000	\$8,000	\$ 4,000	\$ 265,000	\$ 39,000
17. Mountain View Station	\$ 200,000	\$ 20,000	\$ 27,000	\$ 7,000	\$38,000	\$8,000	\$ 4,000	\$ 265,000	\$ 39,000
18. Vallejo Ferry Terminal	\$ 200,000	\$ 20,000	\$ 27,000	\$ 7,000	\$76,000	\$8,000	\$ 9,000	\$ 303,000	\$ 44,000
19. Santa Rosa Transit Center	\$ 200,000	\$ 20,000	\$ 27,000	\$ 7,000	\$38,000	\$8,000	\$ 4,000	\$ 265,000	\$ 39,000
20. Napa Intermodal	\$ 200,000	\$ 20,000	\$ 27,000	\$ 7,000	\$76,000	\$8,000	\$ 9,000	\$ 303,000	\$ 44,000
21. Fairfield Transp. Center	\$ 200,000	\$ 20,000	\$ 27,000	\$ 7,000	\$76,000	\$8,000	\$ 9,000	\$ 303,000	\$ 44,000
22. Bay Area International Airports			\$ 200,000	\$ 30,000	\$300,000	\$30,000	\$ 35,000	\$ 500,000	\$ 95,000
Total Costs	\$ 7,205,000	\$ 680,000	\$ 767,000	\$ 177,000	\$ 2,086,000	\$ 254,000	\$ 240,000	\$ 10,058,000	\$ 1,351,000
	* Annual replacement costs for previously funded RM2 real-time displays are \$62,000; total annual replacement is \$302,000								

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